

**REMARKS**

Claims 1-5, 7-17, 19-20, and 40-43 are pending in the application. Claims 3, 10-14, 16, and 42-43 remain withdrawn. Applicants reserve the right to pursue the original claims and other claims in this and other applications.

Claims 1-2, 4-5, 7-9, 15, 17, 19, 20, and 40-41 remain rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,512,544 to Merrill et al. ("Merrill") in view of Sauer (US 6,320,616). This rejection is respectfully traversed.

Claim 1 defines a method of processing pixel signals and recites, among other things "clamping a pixel readout line to a voltage level less than a voltage corresponding to a pixel signal; *subsequently* coupling the pixel readout line to an output of a source-follower transistor and reading out the pixel signal onto the pixel readout line; [and] *subsequently* clamping a capacitive storage node in a pixel signal processing circuit to a voltage less than a voltage corresponding to the pixel signal appearing on the pixel readout line." (emphasis added). Claim 15 defines an imager and recites similar limitations.

As the Office Action admits, Merrill fails to teach or suggest "*subsequently* clamping a capacitive storage node in a pixel signal processing circuit to a voltage less than a voltage corresponding to the pixel signal appearing on the pixel readout line". (Office Action, pgs. 3-4). The Office Action states that Sauer teaches "[w]hen CL and SH go high... the APS reference voltage of 3.801 V [is] applied to node 157 and reference voltage VR (3V) [is] applied to node 156... [t]hus, capacitor C2 receives a charge corresponding to... -0.801V," and therefore, Sauer cures the Merrill deficiency. Applicant respectfully disagrees.

Even assuming Merrill (which reads a rising pixel signal) could be combined with Sauer (which reads a falling pixel signal) without rendering the references inoperable for their intended purpose, Sauer simply does not teach or suggest "*subsequently* clamping a capacitive storage node in a pixel signal processing circuit to a voltage less than a voltage corresponding to the pixel signal appearing on the pixel readout line" (emphasis added). To the contrary, the disclosure cited by the

Office Action at pgs. 3-4 plainly occurs *before* Sauer transfers charge from its photodetector 116 for read out.<sup>1</sup> (Sauer, col. 7, lns. 38-39; col. 8, lns. 13-16). Sauer specifically states “[n]ext, while the SH line remains high, the CL line is switched low... [l]ess than 1  $\mu$ s after CL switches low... transistor M1 [is] switch[ed] on... caus[ing] any charge stored during the integration period... to be transferred.” (Sauer, col. 7, lns. 50-65). To this effect, the Sauer disclosure cited by the Office Action actually teaches away from the claimed limitation.

Furthermore, according to the teaching of Sauer cited by the Office Action, “the APS reference voltage of 3.801 V [is] applied to node 157.” (Sauer, col. 7, lns. 38-50). The -0.801V figure relief upon by the Office Action is the charge differential present across capacitor C2, not at node 157, as required by the claims.

The only operation at node 157 *subsequent* to Sauer’s pixel sampling operation that Sauer actually teaches, as discussed in Applicant’s Request for Reconsideration filed October 21, 2008, is that “the voltage at node 157 *falls* by 1 V”, plainly indicating that node 157 necessarily started at a voltage higher than the pixel level. (Sauer, col. 8, lns. 23-24) (emphasis added). For at least these reasons, the Merrill and Sauer combination does not teach or suggest each and every limitation of claims 1 and 15. Therefore, Claims 1 and 15 are allowable over the Merrill and Sauer combination.

Claims 2, 4-5, 7-9, 17, 19, 20, and 40-41 depend, respectively, from claims 1 and 15, and are patentable at least for the above mentioned, as well as on their own merits. Applicants therefore respectfully request that the rejection be withdrawn and the claims allowed.

In view of the above, Applicants believe the pending application is in condition for allowance.

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<sup>1</sup> Applicants note that this fact was discussed in Applicant’s Request for Reconsideration filed October 21, 2008, but not addressed by the Office Action.

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